Forintek
Canada
Corp.

Canada's Wood Products Research Institute

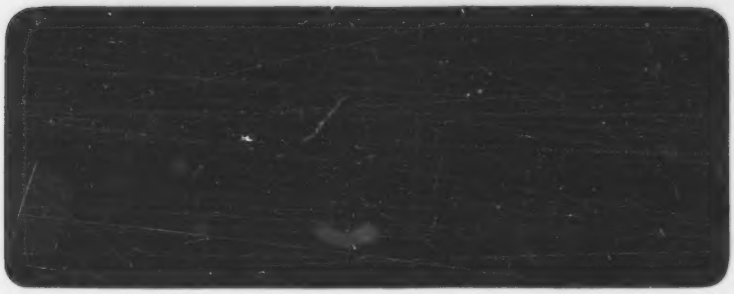
L'institut de recherche sur les produits du bois du Canada

Forintek Canada Corp., is Canada's wood products research institute providing the Canadian wood products industry and governments with services in research and development and technology transfer.

FORINTEK's mission is to be the leading force in the technological advancement of the Canadian wood products industry, through the creation and implementation of innovative concepts, processes, products and education programs.

Forintek Canada Corp. est l'institut de recherche sur les produits du bois du Canada. Forintek offre à l'industrie canadienne des produits du bois et aux gouvernements des services de recherche, de développement et de transfert technologique.

FORINTEK a comme mission d'être le chef de file du progrès technologique de l'industrie canadienne des produits du bois par la création et la mise en oeuvre de concepts, procédés, produits et programmes de formation innovateurs.



Western Division/Division de l'Ouest
2665 East Mall
Vancouver, B.C. V6T 1W5

Tel/Tél: (604) 224-3221
FAX/Télécopieur: (604) 222-5690

Eastern Division/Division de l'Est
319, rue Franquet
Sainte-Foy, Québec G1P 4R4

Tel/Tél: (418) 659-BOIS (2647)
FAX/Télécopieur: (418) 659-2922

1528

Forintek Canada Corp.

Project No.: 1948

Canadian Forest Service No. 21

Japan's Value Added Market: Wood Product Attributes and Competition

Attribute Analysis: Outdoor Furnishings and Decking

by

D. Cohen
Associate Professor
Dept. of Wood Science
University of British Columbia

C. Gaston
Forest Products Market Economist
Wood Engineering Department
Forintek Canada Corp.

September 1998

Prepared for and with financial assistance from

Forest Renewal BC

and

Canadian Forest Service under the Contribution Agreement existing between the Government of Canada and Forintek Canada Corp.

Project Leader

Department Manager

Acknowledgements

Forintek gratefully acknowledges Forest Renewal BC for partially funding this project. The authors would also like to acknowledge the Steering Committee and other industry contacts both in British Columbia and in Japan for this project.

This project was also financially supported by the Canadian Forest Service under the Contribution Agreement existing between the Government of Canada and Forintek Canada Corp.

The authors would also like to acknowledge Ms. Cheryl-lee Fast for all of her help in organising the market research survey material used in Japan.

All errors or omissions remain the responsibility of the authors.

Executive Summary

General Results

- Durability is considered even more important than price for outdoor furnishings.
- Material (3rd), maintenance (4th) and finish (5th) are also important.
- While price sensitive there is a significant minority willing to pay up to a 20% price premium.
- Premiums are available for products that required almost no maintenance and are durable.
- Premiums are available for sugi with Western Red Cedar ranking a distant second.
- Canadian Red Cedar is second only to Japanese sugi in consumer preference, while species that are treated with CCA rank last.
- There seems to be little opportunity for CCA treated outdoor furnishings however there is opportunity for non-CCA treated wood.
- Dark colours are preferred however there is a substantial niche both for all other colours.
- In terms of product bundling there are substantial consumers groups who want both single items, groups of decking, furniture and fencing and complete coordinated systems, which is the most preferred.

General Opportunities

- Best opportunity is to redesign, manufacture and market existing Western Red Cedar outdoor furniture manufacture for the Japanese market since it is solid wood and preferred by Japanese consumers.
  - Ensure construction and finish is durable and will last at least 10 years with minimum maintenance.
  - Expand product offerings to include decking, furniture and fencing with an eye to expanding into complete coordinated system.
  - Colour match boards to produce either "light" Cedar or "dark" Cedar in each product bundle.
  - Price at slight premium to current prices but still below local sugi outdoor furnishings.

Table of Contents

1 Introduction **1**

2 Response to Questionnaire **1**

2.1 Basic Consumer Respondent Demographics 1

2.2 Quality Issues 2

2.2.1 Consumers 2

2.3 Answers to Questionnaire: Consumers 3

3 Trade-Off Analysis: Outdoor Furnishings and Decking **5**

3.1 Simple Trade-Offs 6

3.2 Two Way Trade-Offs 7

4 Market Simulation **9**

4.1 Consumers and Outdoor Furnishings and Decking 9

4.2 Further Market Share Analysis 10

5 Results **11**

5.1 Summary of Key Results: Outdoor Furnishings and Decking 11

4.2 Opportunities for Outdoor Furnishings and Decking 11

Appendix 1: Outdoor Furnishings and Decking Survey Questions **12**

List of Figures

Figure 1: Material Preference for Outdoor Furnishings 4

List of Tables

Table 1: Would an independent quality assurance label increase your level of confidence when purchasing: 2

Table 2: Relative Importance of Quality Factors 3

Table 3: Most Important Attributes for Outdoor Furnishings 4

Table 4: Example of Choice Made for Outdoor Furnishings and Decking 5

Table 5: Consumers' Relative Selection of Levels within Attributes for Outdoor Furnishing 6

Table 6: Market Share for Outdoor Furnishings and Decking based on Material 9

Table 7: Market Share for Outdoor Furnishings and Decking for Medium Colour 10

1 Introduction

This report presents the results of interviews and surveys conducted in Japan from March 1998 to June 1998. Each of the six product groups will be presented in a separate section starting with Wood Furniture followed by Outdoor Furnishings, Interior Finish, Wood structural Members, Engineered Structural Products and Building Systems. This section summarizes the results for Outdoor Furnishings and Decking.

The same format is repeated for all groups surveyed. First there is a summary of the general questions for the product category for each group interviewed. The survey questions are summarized with minimal commentary. Many of the questions will be clear from the text but to facilitate ease of use the questionnaire is shown in Appendix 1. Following this summary the results of the conjoint (or trade-off) analysis is presented for each group interviewed. The third set of results presented is a brief summary of the market share analysis. The last section summarizes the most meaningful results and identifies opportunities for BC producers.

Information regarding Outdoor Furnishings and Decking was collected from Japanese consumers. Information was collected in Japan from April-June 1998 through direct interviews of 225 consumers located in one of the three major metropolitan areas (Tokyo, Osaka and Nagoya).

2 Response to Questionnaire

2.1 Basic Consumer Respondent Demographics[1]

Of the 225 respondents 83% are male and 17% are female. Most are over 30 years old and the average age ranges from the late thirties to the early forties, the prime house buying age group in Japan. Almost all are high school graduates. Over a quarter have completed University and another 28.2% have completed 2 years of University. About a third have incomes over 1 million Yen per year and another third have incomes between 700,000 and 1,000,000 Yen per year. The remainder had incomes over 300,000 Yen annually.

Since furniture is most often purchased when consumers either buy a new house or replace their exiting house information on house purchase is of interest. In terms of who would make the house purchase decision, it is evenly split between the wife and the husband (50:50). Seventy-eight percent currently own a house and expect to upgrade within ten years and 22% do not own a house but expect to purchase on within the next ten years. Respondents expect to purchase a new house in 2.6 years on average. About half do not expect to purchase a new house within the next five years while a third expect to buy within the next 3-5 years. The remainder is planning on purchasing within the next two years.

[1] Results are presented in six separate reports based on product groups, thus some information is repeated. Such repetition will always be footnoted.

2.2 Quality Issues[2]

Additional questions were included to assist the Wood Products Quality Council of Canada.[3] Results may be of interest to organizations not currently involved in this initiative. Information is first presented for consumers and then for the designers.

2.2.1 Consumers

It is clear that the consumer respondents react positively to quality assurance labels, particularly for houses and interior finishing items as shown in Table 1.

Table 1: Would an independent quality assurance label increase your level of confidence when purchasing:

Product	% that indicated an increase
Wood furniture	72
Building systems	83
Interior finish	80
Outdoor furnishings	56

The most confidence placed in a quality label is from the country of purchase, that is a Japanese label (47% of respondents). Thirty two percent of consumers do not care where the label originated and 21% prefer a label from the country of manufacture. That is, half prefer a Japanese label and the other half either prefer a label from the country of manufacture or didn't care.

Respondents consider testing wood products to some quality standard as important or extremely important. The average (on a 5 point scale with 1 = not at all important and 5 = extremely important) was 3.97. Almost all respondents indicate that this standard ranged from important (3) to extremely important (5).

Respondents are fairly evenly split when asked their preference between a quality assurance program that certifies quality in the **process** *(how well the product is manufactured)* or quality in the **product** *(how well the product fulfills its intended function)*. Slightly less than half (45.5%) prefer process while slightly more than half (54.5%) prefer product.

---

[2] Results are presented in six separate reports based on product groups, thus some information is repeated. Such repetition will always be footnoted.

[3] The Wood Products Quality Council of Canada is an industry and FRBC supported organization committed to developing quality standards for the secondary wood sector of BC. It is being organized through the Centre of Advanced Wood Processing (CAWP) located at the University of British Columbia (UBC). Questions on quality were designed by Dr. Robert Kozak (CAWP, UBC)

Respondents were also asked to identify the relative importance of several factors in determining the quality of wood products. Results are shown in Table 2 with 1 = not at all important and 5 = extremely important. When reading the table, the higher the number the more important the factor.

Table 2: Relative Importance of Quality Factors

Factor	Relative importance
Product conformance *is the product defect-free and does it meet with known standards?*	4.53
Product serviceability *is the product easy to maintain and is service speedy and dependable?*	4.44
Product reliability *if used properly, will the product operate without failure over a specified time?*	4.40
Product performance *how does the product perform in its intended function?*	4.38
Product durability *how much can the product be used before it needs to be fixed or replaced?*	4.33
Product aesthetics *how does the product look, feel, etc. and is there a variety of styles?*	4.22
Product features*what types of features does the product have relative to the competition*	3.50
Perceived quality *does the manufacturer have a reputation or a recognizable brand name?*	3.30

It is interesting to note that product conforming to set quality standards is the highest preferred feature in determining the quality of wood products.

2.3 Answers to Questionnaire: Consumers

As larger houses and three story houses grow in popularity so does the desire to complete some landscaping on the small yards typical of Japanese homes. This includes using various types of outdoor furnishings such as decking, fencing, latticework, outdoor furniture, etc. Several questions regarding the importance of various attributes for outdoor furnishings are presented.

Table 3 summarizes the results and calculates the score by assigning 3 points for a first place ranking, 2 points for a second place ranking, 1 point for a third place ranking and 0 points if the attribute was not ranked.

Table 3: Most Important Attributes for Outdoor Furnishings

Attribute	Score
durability	199
price	173
material	125
maintenance	78
finish	72
colour	19

It is clear that durability, price and material are the most important attributes. This indicates potential for Western Red Cedar products since they are very durable and they are competitively priced relative to other solid woods such as teak and redwood. Further information was collected concerning preferences for various materials, shown in Figure 1. It is clear that there is a negative attitude towards CCA treated wood for use in outdoor furnishings. There is little difference between most of the other materials indicating both opportunities and threats for BC wood products for outdoor furnishings. The general low scores, combined with the bunching of materials, usually indicate that there is confusion among consumers in this market. Given the recent interest in outdoor furnishings the Japanese consumer has yet to establish strong material preferences which creates some opportunities and threats for products made from Western Red Cedar. The high score for the "other" category also supports this contention.

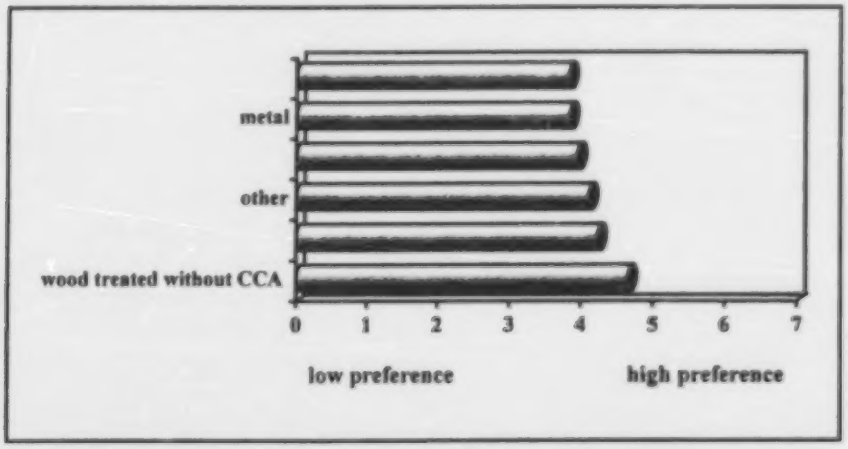


Figure 1: Material Preference for Outdoor Furnishings

3 Trade-Off Analysis: Outdoor Furnishings and Decking

For each product group designers and some consumers were asked to make choices between different types of products. Using trade-off analysis (or conjoint analysis) respondents are forced to trade off different attributes of a product. For example they would not be able to get all the best possible attributes at the lowest possible price but must make choices concerning how they will spend their limited resources. The methodology is complex and will not be discussed in this paper however an example of the type of choice they had to make is shown in Table 4. Each respondent had to make 20 such choices for wood furniture.

Table 4: Example of Choice Made for Outdoor Furnishings and Decking

Please select one of the 4 choices shown below.			
1	2	3	4
♦ 10% above average ♦ needs maintenance every 7 years ♦ Canadian Red Cedar ♦ light colour ♦ last 15 years ♦ only 1 of decking furniture & fencing	♦ 10% below average ♦ needs maintenance every 4 years ♦ CCA treated wood ♦ medium colour ♦ last 10 years ♦ only 2 of decking furniture & fencing	♦ average cost ♦ needs maintenance every 7 years ♦ Japanese sugi ♦ medium colour ♦ last 10 years ♦ complete coordinated system	None of the choices are suitable

There are several types of results that will be reported. First will be the relative proportion of respondents that chose a certain level for a specific attribute. Second will be how respondents made trade offs among different attributes. The third type of analysis will be reported in the market share section and involves "what if" analysis. For example how much market share would a certain product achieve assuming our respondents are representative of all consumers. Product attributes and their levels were selected with input from industry and government personnel both in BC and Japan.

The results of these attribute analyses will feed into the international trade analysis to assess BC's relative competitiveness in a global market for specific product groups. They will also provide direction for determining which species in BC can be best used to meet Japanese customer requirements.

3.1 Simple Trade-Offs

Each respondent had to make a choice between 3 different types of outdoor furnishings and decking described by one level from each of the six attributes. They could also select none of the choices given. Respondents had to do this twenty times with different levels used for the same attributes. Levels and attributes were chosen with input from the project steering committee and additional input from BC representatives in Japan. They are shown in Table 5.

Table 5 shows the proportion of times a certain level within an attribute was selected. The statistical software tests to ensure that differences are significant and not due to random chance.[4] Because there are over 2,000 choices made by over 125 consumers even a small difference can have meaning.

The way this table can be read follows:

- 20% of the time consumers selected an inexpensive price,
- 27% of the time consumers selected an average price

Because Price is included in more than 2,000 selections impact from the other attributes is minimized.

Table 5: Consumers' Relative Selection of Levels within Attributes for Outdoor Furnishing

Attribute Level	% of time selected	Attribute Level	% of time selected
Price		***Colour***	
10 % less than current	30.9%	very light	23.3
current prices	28.5%	light	24.6
10% more	23.8%	medium	26.0
20% more	*16.8%*	dark	26.1
Maintenance		***Durability***	
needs maint. every 2 years	12.8%	will last 5years	21.3
needs maint. every 4 years	17.9%	will last 10 years	36.0
needs maint. every 7 years	31.4%	will last 15 years	42.7
needs maint. every 10 years	37.8%		
Type of Wood		***Product Bundling***	
Japanese Sugi	29.9%	only 1 of decking, furn. & fencing	24.2
CCA (or other chemical)	21.3%	only 2 of decking, furn. & fencing	24.2
Canadian Red Cedar	25.2%	all 3 of decking furn. and fencing	25.3
US Redwood	23.6%	complete coordinated outdoor system	26.3

Price Consumers are very price sensitive when it came to outdoor furnishings. However there is a signigicant niche willing to pay 10-20% more depending on the other attibutes. The two way analysis will determine which attibutes consumers are willing to pay a premium for. Price was the second most important product attribute in the questionnaire.

[4] Within each attribute there was a significant difference between levels tested using a Chi Square at ↦ = .01

Maintenance These results indicate a strong desire among consumers to minimize manintenance requirements for outdoor furnishings. This is logical given the lack of skills in the Japanese consumer for "handyman" projects.

Type of Wood Japanese sugi is the most preferred species. However of all the imported species, including treated wood, Canadian Red Cedar ranks highest indicating opportunities for BC producers, as material is such an important product attribute for consumers (see results above for the questionnaire).

Colour Given the general Japanese preference for light wood among most other wood products examined, it is surprising to find that dark or medium woods are preferred over lighter coloured wood for outdoor furnishings. This indicates a potential for increased exports of BC finished outdoor Cedar products especially if dark coloured Cedar is sorted specifically for the Japanese market.

Durability As expected respondents prefer more durable outdoor furnishings and decking. However when durability is compared with maintenance preferences, it seems that Japanese consumers would like to purchase outdoor furnishings and decking that require no maintenance but instead are replaced when refinishing is required. Remember that durability ranks as the most important product attribute in the questionnaire, even of more importance than price.

Product Bundling There is an even distribution between all four choices in this product attribute. Three of the four choices include some form of product bundling. That is to say, while there may be a good market for Cedar decking, if it is bundled with other outdoor furnishings the market size should grow substantially.

3.2 Two Way Trade-Offs

Results also show how two different attributes interact with each other. People making purchasing decisions do not rely on a single product attribute in making their selection but rather on many attributes and how they interact with each other.

Only certain two-way trade offs are presented. Those interactions omitted are for the following reasons: 1) they provide little useful information, 2) there is little difference between different combinations or 3) statistical analysis indicated unreliable results. The results are summarized without presenting the tables or details of analysis for brevity.

Interaction between Price and Maintenance

- Almost two thirds of the consumers interviewed are willing to pay a 10-20% price premium for products that require no maintenance for ten years.
- At any price range the consumers strongly prefer outdoor furnishings that require no maintenance for as long as possible

Interaction between Price and Type of Wood

- Consumers show a strong preference for Japanese sugi and were willing to pay a premium for this species. Canadian Red Cedar and US Redwood are their second choice with CCA treated wood a choice of few consumers at any price range.
- Sugi is the least price sensitive followed by Cedar, Redwood and CCA treated wood. However if Cedar and sugi were priced the same consumers would chose sugi most of the time.

Interaction between Price and Durability

- Results indicate that despite the price sensitivity of consumers, they expect outdoor furnishings to last longer if they pay a premium. However it must be stressed that consumers are very price sensitive in this product category.
- The importance of durability (first) among attributes combined with the desire to minimize maintenance indicates the need to produce no-maintenance, long lasting outdoor furnishings.

4 Market Simulation

The software enables analysis of market share potential and changes for different products with various levels of attributes. This allows calculation of potential market for outdoor furnishings and decking. While not all possible combinations will be calculated or shown the potential for outdoor furnishings and decking will be explored by presenting several scenarios. This analysis shows the results for consumers.

4.1 Consumers and Outdoor Furnishings and Decking

Results from the first market share run for outdoor furnishings and decking for the consumers are shown in Table 6.

Table 6: Market Share for Outdoor Furnishings and Decking based on Material

Japanese sugi	CCA or other chemical	Western Red Cedar	US Redwood	none of these
current prices	current prices	current prices	current prices	
maintenance every 4 years	maintenance every 4 years	maintenance every 4 years	maintenance every 4 years	
light colour	light colour	light colour	light colour	
will last 10 years	will last 10 years	will last 10 years	will last 10 years	
only 1 of decking, furn. & fencing	only 1 of decking, furn. & fencing	only 1 of decking, furn. & fencing	only 1 of decking, furn. & fencing	
21.7%	**13.9%**	**17.3%**	**15.6%**	**31.4%**

Western Red Cedar ranks second only to Japanese sugi and would capture a 17.3% market share of the outdoor furnishings and decking market in Japan. Given the population (125 million people) and the size of new house construction (>600,000 single-family dwellings) this represents a very sizable market. Approximately a third of consumer respondents would not choose a wood decking indicated by the 31% selecting none.

- If prices for Cedar and Redwood were 10% more than current prices the market share would drop marginally to 15.4% (for Cedar) and 13.9%. If prices were to rise 20% then the respective shares would drop to 11.2% and 10.2%.
- If all other products were as in Table 6 and Western Red Cedar were to cost 10% more but last 15 years and require maintenance only every 10 years it would capture over 49% of market share. Obviously other products would follow suit. If Redwood adopted both these durability and maintenance attributes then WRC would capture 32% of the market and redwood would capture 33%.

- There is clear indication that the more products available the more likely consumers will select Western Red Cedar (WRC). The share for sugi remains relatively stable while share increases for WRC and Redwood if there was increased product bundling. This indicates that product selection is holding back sales to consumers of outdoor furnishings and decking in Japan. For example if all wood materials were to offer decking, furniture and fencing then the market share distribution would be:
  - Japanese sugi 22%
  - WRC 21%
  - Redwood 20%
  - CCA or other chemically treated wood 14%
  - None of these 23%

If everything remains the same as in Table 6 but the colour selection is medium then results change to those shown in Table 7.

Table 7: Market Share for Outdoor Furnishings and Decking for Medium Colour

Japanese sugi	CCA or other chemical	Western Red Cedar	US Redwood	none of these
22.2%	14.2%	17.7%	16.0%	30.0%

- If Cedar is sorted to produce dark colours only then its market share would increase to 21.4%, almost equal to sugi at 21.9%. This indicates that sorting Cedar decking and other outdoor products to send the darkest colour to Japan will increase market share.
- In fact if the colour is dark and the price is 10% over current prices Cedar still retains a 20.7% market share. At a 20% increase over current prices then Cedar still captures a 14.7% market share.

4.2 Further Market Share Analysis

Numerous scenarios are possible in market share analysis and not all possibilities are shown in this report. Should BC producers desire additional analysis please contact the authors.

5 Results

5.1 Summary of Key Results: Outdoor Furnishings and Decking

- Durability is considered even more important than price for outdoor furnishings.
- Material (3rd), maintenance (4th) and finish (5th) are also important.
- While consumers are price sensitive there is a significant minority willing to pay up to a 20% price premium.
- Premiums are available for products that required almost no maintenance and are durable.
- Premiums are available for sugi while Western Red Cedar ranks a distant second.
- Canadian Red Cedar was second only to Japanese sugi in species preference with CCA treated wood products ranking last.
- There seems to be little opportunity for CCA treated outdoor furnishings yet there is opportunity for non-CCA treated wood.
- Dark colours are preferred however there are substantial niche markets for all other colours.
- There are consumers wanting all levels of product bundles, that is both single items, groups of decking, furniture and fencing, and complete coordinated systems. The latter is the most preferred.

4.2 Opportunities for Outdoor Furnishings and Decking

- Best opportunity is redesign existing Western Red Cedar outdoor furniture manufacture for the Japanese market since it is solid wood.
  - Ensure construction and finish is durable and will last at least 10 years with minimum maintenance
  - Expand product offerings to include decking, furniture and fencing with an eye to expanding into complete coordinated system
  - Colour match boards to produce either "light Cedar" or "dark" Cedar in each product bundle
  - Price at slight premium to current prices but still below local sugi outdoor furnishings

Appendix 1: Outdoor Furnishings and Decking Survey Questions for Consumers

General Questions for Consumers

sex female_____ male_____

age 20& over _____30 & over_____ 40 & over_____ 50 & over_____60 & over_____

education mandatory _____ high school graduate _____ university/college _____
graduate institute _____

income (000's) 300Y_____ 300 – 500Y_____ 500-700Y_____ 700-1000Y_____1000_____

Who will make the big purchase decisions?

wife_____ husband_____ not applicable_____

1. Do you currently own your own house?

   YES _____ NO _____

If NO please indicate when you plan to purchase a house and go to question 4 _____ years

2. When do you expect to replace your existing house?
   - _____ within the next 12 months
   - _____ the time period from 13-24 months
   - _____ from 3 to 5 years from now

3. Why will you replace your house?
   - _____ current house is no longer sound due to decay
   - _____ current house is no longer structurally sound
   - _____ current house too small
   - _____ current house needs costly renovations
   - _____ current house needs style changes
   - _____ other (please specify) _____

4. Which type of house do you prefer?
   - _____ wood post and beam (traditional)
   - _____ wood 2 by 4 (platform frame)
   - _____ hybrid (mix of post & beam and 2 by 4)
   - _____ steel or concrete
   - _____ pre-fabricated
   - _____ do not care

5. Are you aware of the growing concern over formaldehyde emissions in Japanese homes?

YES _____ NO _____

6. Would you be interested in a panel with 1/50th of the formaldehyde emission levels of government standards?

YES _____ NO _____

7 Would you be prepared to pay a small premium for such a panel?

YES _____ NO _____

8. Who do you expect to live in you new house?

_____ your immediate family (husband, wife and children)

_____ your extended family (husband, wife, children and parents)

9. How big a house do you expect to build or purchase?

_____ < 30 tsubo

_____ 30-39 tsubo

_____ 40-49 tsubo

_____ 50 tsubo or larger

10. Would an independent quality assurance label increase your level of confidence when purchasing…

	YES	NO
wood furniture	❑	❑
building systems	❑	❑
interior finish	❑	❑
outdoor furnishings	❑	❑

11. Would you feel more confident with a quality assurance label from… *(check one)*

… the country of manufacture ❑

… the country of purchase ❑

… does not matter ❑

12. When purchasing wood products, how important is it to you to know that the product has been tested to meet some recognized standard? *(circle one)*

not at all important 1 2 3 4 5 extremely important

13. Given the choice, would you prefer to see a quality assurance program certify… *(check one)*

… quality in the process *(how well the product is manufactured)* ❑

OR

… quality in the product *(how well the product fulfills its intended function)* ❑

14. How important are the following factors in determining the quality of wood products that you purchase?
(circle one for each factor, with 1 being not at all important and 5 being extremely important)

product performance *how does the product perform in its intended function?*	1 2 3 4 5
product features *what types of features does the product have relative to the competition?*	1 2 3 4 5
product reliability *if used properly, will the product operate without failure over a specified time?*	1 2 3 4 5
product conformance *is the product defect-free and does it meet with known standards?*	1 2 3 4 5
product durability *how much can the product be used before it needs to be fixed or replaced?*	1 2 3 4 5
Product serviceability *is the product easy to maintain and is service speedy and dependable?*	1 2 3 4 5
product aesthetics *how does the product look, feel, etc. and is there a variety of styles?*	1 2 3 4 5
perceived quality *does the manufacturer have a reputation or a recognizable brand name?*	1 2 3 4 5

Questions for Consumers on Outdoor Furnishings

18. Please rank the three most important of the following product attributes with number 1 being the most important.

_____ Price
_____ Material (wood, concrete, plastic, etc.)
_____ Colour
_____ Maintenance
_____ Level of finish
_____ Durability

18. Please indicate the relative preference for the material your prefer for outdoor furnishings.

	Low preference						High preference
untreated wood	1	2	3	4	5	6	7
CCA(treatment containing arsenic) treated wood	1	2	3	4	5	6	7
wood treated with other than CCA (treatment containing a chemical other than arsenic)	1	2	3	4	5	6	7
plastic	1	2	3	4	5	6	7
metal	1	2	3	4	5	6	7
other	1	2	3	4	5	6	7